

Docket No. 101-1028
Serial No. 10/822,004
Amdt. Dated: March 13, 2007
Reply to Office Action of December 19, 2007

REMARKS

Introduction

Upon entry of the foregoing amendment, claims 1-27, 29-40 are pending in the application. Claims 1-18, and 40 are under Examination, claim 28 has been cancelled, and claims 19-27 and 29-39 have been withdrawn from consideration. Claim 40 has been added. No new matter is being presented. In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

Acknowledgement of application papers

The Applicant notes that in the Office Action dated 19 December 2006, the Examiner has not indicated whether the drawings filed have been accepted. The Applicant respectfully requests that the acceptability of the drawings be acknowledged.

Acknowledgement of a claim for foreign priority

In the Office Action dated 19 December 2006, the Applicant's claim for foreign priority under 35 U.S.C. §119(a) has not been acknowledged. Enclosed are copies of the priority document submission forms filed together with the application on 12 April 2004, and an official filing receipt for the application of 23 June 2004. The Applicant respectfully requests that the claim for foreign priority be acknowledged.

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Rejections under 35 USC §102

Claims 1, 3, and 5-6 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Application Publication No. 2003/0086732 to Abe et al. (hereinafter "Abe et al."). Applicants respectfully request reconsideration and withdrawal of this rejection for at least the following reasons.

Claim 1:

At page 2, item 2, of the Office Action of 19 December 2006, the Examiner alleges that Abe et al. teaches all of the features recited in independent claim 1. In particular, the Examiner alleges that:

Abe et al. teaches an electrophotographic printer comprising: a main frame; a photosensitive drum unit vertically detachably installed on the main frame, and having a photosensitive drum 17 on which an electrostatic latent image is formed; and an intermediate transfer unit vertically detachably installed on the main frame, and having a transfer surface to which a toner image is transferred from the photosensitive drum, wherein the intermediate transfer unit 9 is installed above the photosensitive drum unit.

However, it is respectfully submitted that Abe et al. does not disclose, teach, or suggest all of the elements of the Applicant's invention as presently recited in independent claim 1, for at least the following reasons.

The Examiner fails to show that Abe et al. discloses the Applicant's invention as presently recited. This is evidenced by the fact that the Examiner's rejection does not address all of the limitations of independent claim 1 which was amended on June 21, 2006. Thus, the Examiner fails to show that Abe et al. discloses, among other things, "an intermediate transfer unit vertically detachably installed at a transfer unit operating position in the internal space of the main frame independently from the photosensitive drum unit, and having a transfer belt to which a toner image is transferred from the photosensitive drum," and "wherein the intermediate transfer unit is installed above the photosensitive drum unit, and the photosensitive drum unit and the intermediate transfer unit operate in the drum operating position and the transfer unit operating position, respectively," as presently recited in independent claim 1.

Abe et al. is directed to an image forming apparatus having a housing body 2, a first movable section 3 that is pivotally movable with respect to the housing body 2, and a second movable section 50 that is pivotally movable with respect to the housing body 2 and the first movable section 3. See Abe et al. paragraphs [0064] and [0070]. In particular, the first and second movable sections 3 and 50 can be opened such that an image forming unit 7, which includes a photoconductive drum, and a transfer belt unit 9, which are disposed on the second movable section 50, are exposed. See Abe et al. paragraph [0070]. See Abe et al. FIG. 8. Once the second movable section 50 is opened (i.e., pivotally moved or rotated from the housing body 2), the image forming unit 7 and the transfer belt unit 9 can be removed from the second movable section 50. See Abe et al. paragraph [0071].

However, in order to remove the transfer belt unit 9 and the image forming unit 7, which includes a photoconductive drum 17, the second movable section 50 must first be pivoted horizontally with respect to the housing body 2 to provide access to these components. Once the second movable section 50 is horizontally pivoted, these components can be removed. See Abe et al. FIG. 9. It is evident from FIG. 8 of Abe et al. that the image forming unit 7 and the transfer belt unit 9 are horizontally pivoted from their respective operating positions by the second movable section 50. Thus, the image forming unit 7 and the transfer belt unit 9 are not "vertically detachably installed at" their respective "operating position[s] in the internal space of the" housing body 2, as presently recited in independent claim 1.

In contrast with the present invention, the image forming unit 7 and the transfer belt unit 9 of Abe et al. are not in their respective operating positions when the second movable section 50 is open with respect to the housing body 2, since these components cannot operate when the second movable section 50 is in the open position shown in FIG. 8 of Abe et al. Furthermore, even when the second movable section 50 is opened (See FIG. 8 of Abe et al.) and the image forming unit 7 and the transfer belt unit 9 are vertically removable therefrom, these components are not "vertically detachably installed...in the internal space of the main frame..." as presently recited in independent claim 1. Thus, Abe et al. fails to disclose, among other things, "a photosensitive drum unit vertically detachably installed at a drum operating position in the internal space of the main frame" and "an intermediate transfer unit vertically detachably installed at a transfer unit operating position in the internal space of the main frame,"

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as presently recited in independent claim 1 of Applicants' invention.

Moreover, the Abe et al. fails to disclose "a main frame to define an internal space of the electrophotographic printer," "a photosensitive drum unit vertically detachably installed at a drum operating position in the internal space of the main frame," "an intermediate transfer unit vertically detachably installed at a transfer unit operating position in the internal space of the main frame," and "wherein...the photosensitive drum unit and the intermediate transfer unit operate in the drum operating position and the transfer unit operating position, respectively," as presently recited in independent claim 1 of Applicants' invention.

Accordingly, since the Abe et al. reference does not explicitly or inherently disclose every element as presently recited in independent claim 1, this reference can not be properly used to reject claim 1 under 35 U.S.C. § 102. Therefore, it is respectfully submitted that independent claim 1 is allowable over the Abe et al. reference, and withdrawal of this rejection and allowance of this claim are respectfully solicited.

Claims 3 and 5-6:

With respect to claims 3 and 5-6, it is respectfully submitted that for at least the reason that claims 3 and 5-6 depend from independent claim 1, which is patentably distinguishable from Abe et al. for at least the reasons provided above, and therefore contain each of the features as recited in independent claim 1, dependent claims 3 and 5-6 are also patentably distinguishable from Abe et al., and withdrawal of this rejection and allowance of these claim are respectfully solicited.

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Rejections under 35 USC §103(a): Abe et al. and Nomani:

Claims 2, 4, 7-13 have been rejected under 35 USC §103(a) as being unpatentable over Abe et al. and further in view of U.S. Patent No. 4,837,598 to Nonami. Applicants respectfully request reconsideration and withdrawal of this rejection for at least the following reasons.

Claim 2:

With respect to claim 2, it is respectfully submitted that for at least the reason that dependent claim 2 depends from independent claim 1, which is allowable over Abe et al. for at least the reasons pointed out above, and therefore contains each of the features as recited in claim 1, dependent claim 2 is also allowable over Abe et al. Further, since Nonami does not teach or suggest any of the limitations which are lacking in Abe et al., this claim is allowable over both Abe et al. and Nonami, separately or in combination. Accordingly, withdrawal of this rejection and allowance of this claim are respectfully requested.

Claim 4:

Claim 4 indirectly depends from independent claim 1, and therefore includes the features as presently recited in independent claim 1. The Examiner acknowledges that Abe et al. does not teach an eraser device. See Office Action of 19 December 2006, page 3, item 5. However, the Examiner relies on Nonami to allegedly teach or suggest the features admittedly lacking in Abe et al. See Office Action of 19 December 2006, page 3, item 5. Applicants respectfully submit that even if it is assumed that it were proper to combine Abe et al. with Nonami to describe an eraser device with a light guide, as alleged by the Examiner, Abe et al. and Nonami, either separately or in combination, fail to teach or suggest, among other things, "a main frame to define an internal space of the electrophotographic printer," "a photosensitive drum unit vertically detachably installed at a drum operating position in the internal space of the main frame," "an intermediate transfer unit vertically detachably installed at a transfer unit operating position in the internal space of the main frame," and "wherein...the photosensitive drum unit and the intermediate transfer unit operate in the drum operating position and the transfer unit operating position, respectively," as presently recited in independent claim 1 of Applicants'

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invention. Accordingly, claim 4 is patentable over the references relied upon by the Examiner, and withdrawal of the rejection and allowance of this claim are earnestly solicited.

Claim 7:

With respect to claim 7, it is respectfully submitted that for at least the reason that dependent claim 7 depends from independent claim 1, which is allowable over Abe et al. for at least the reasons pointed out above, and therefore contains each of the features as recited in claim 1, dependent claim 7 is also allowable over Abe et al. Further, since Nonami does not teach or suggest any of the limitations which are lacking in Abe et al., this claim is allowable over both Abe et al. and Nonami, separately or in combination. Accordingly, withdrawal of this rejection and allowance of this claim are respectfully requested.

Claim 8:

With respect to claim 8, it is respectfully submitted that for at least the reason that dependent claim 8 depends from independent claim 1, which is allowable over Abe et al. for at least the reasons pointed out above, and therefore contains each of the features as recited in claim 1, dependent claim 8 is also allowable over Abe et al. Further, since Nonami does not teach or suggest any of the limitations which are lacking in Abe et al., this claim is allowable over both Abe et al. and Nonami, separately or in combination. Accordingly, withdrawal of this rejection and allowance of this claim are respectfully requested.

Furthermore, the Examiner alleges that "the teaching of a bushing at the ends of a development roller is known in the art." See Office Action of 19 December 2006, page 4, item 5. To support this allegation, the Examiner points out that "Komuro teaches spacer rollers for setting the development spacing." See Office Action of 19 December 2006, page 5, item 7.

However, Komuro (JP 2003043813) describes spacer rollers provided at either ends of an image development roller to maintain a specific interval between a photoreceptor and the roller. See Komuro, abstract. This does not demonstrate that "a bushing rotatably installed at both ends of the developing roller to contact the photosensitive drum when the developing roller is spaced apart from the photosensitive drum by the developing gap," as recited in claim 8, is

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well known in the art.

Accordingly, the Examiner has not provided any documentary evidence to support this allegation of common knowledge in the art, as required under M.P.E.P. § 2144.03:

Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge. See *Lee*, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 (holding that general conclusions concerning what is "basic knowledge" or "common sense" to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection).

Therefore, the rejection of claim 8 under 35 U.S.C. §103(a) are improper, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

Claims 9-10:

With respect to claims 9-10, it is respectfully submitted that for at least the reason that dependent claims 9-10 depend from independent claim 1, which is allowable over Abe et al. for at least the reasons pointed out above, and therefore contains each of the features as recited in claim 1, dependent claims 9-10 are also allowable over Abe et al. Further, since Nonami does not teach or suggest any of the limitations which are lacking in Abe et al., these claims are allowable over both Abe et al. and Nonami, separately or in combination. Accordingly, withdrawal of this rejection and allowance of these claims are respectfully requested.

Furthermore, on page 4 of the Office Action of 19 December 2006, the Examiner alleges that "it would have been obvious... to use the teachings of erroneous insertion preventing units or recognitions units as is known in the art with that (sic) image forming device of Abe et al. to insure proper installation of color cartridges." To support this allegation, the Examiner points out that "Trafton et al. teaches a color cartridge that is discriminated by shape so that it can only be installed in one slot of the image forming apparatus." See Office Action of 19 December 2006, page 5, item 7.

However, Trafton et al. (U.S. Pat. Application No. 2003/0038860) is limited to describing an ink cartridge, and methods to mount an ink supply within a cavity of the ink cartridge. See Trafton et al., abstract. This is not the same as "a plurality of rails provided on the main frame," as recited in claim 9, nor does it demonstrate that "an erroneous insertion preventing unit to mount the plurality of development units on a predetermined rail among the plurality of rails,"

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and "connection units provided at the main frame to be complementarily coupled to corresponding ones of the recognition units," as recited in claims 9 and 10, respectively, are well known in the art.

Accordingly, the Examiner has not provide any documentary evidence to support this allegation of common knowledge in the art, as required under M.P.E.P. § 2144.03, and therefore, the rejection of claims 9-10 under 35 U.S.C. §103(a) are improper, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

Claim 11-13:

With respect to claims 11-13, it is respectfully submitted that for at least the reason that dependent claims 11-13 indirectly depend from independent claim 1, which is allowable over Abe et al. for at least the reasons pointed out above, and therefore contains each of the features as recited in claim 1, dependent claims 11-13 are also allowable over Abe et al. Further, since Nonami does not teach or suggest any of the limitations which are lacking in Abe et al., these claims are allowable over both Abe et al. and Nonami, separately or in combination. Accordingly, withdrawal of this rejection and allowance of these claims are respectfully requested.

Furthermore, on page 4 of the Office Action of 19 December 2006, the Examiner alleges that "it would have been obvious... to use the teachings of a pre-transfer eraser as is known in the art with that (sic) image forming device of Abe et al. since a pre-transfer eraser increases transfer efficiency." To support this allegation, the Examiner points out that "Oogi et al. teaches a pre-transfer eraser." See Office Action of 19 December 2006, page 5, item 7. However, this general allegation of the Examiner does not take into account all the limitations recited into this claims, such as, among other things, "an erasing lens," as recited in claims 11-13, which are nowhere mentioned in Oogi et al. (U.S. Patent No. 6,167,211). That is, Oogi et al. cannot be used to show that all the limitations recited in these claims are well known in the art, when Oogi et al. does not even mention, among other things, "a pre-transfer erasing lens," as recited in these claims.

Accordingly, the Examiner has not provide any documentary evidence to support this allegation of common knowledge in the art, as required under M.P.E.P. § 2144.03, and

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therefore, the rejection of claims 11-13 under 35 U.S.C. §103(a) are improper, and withdrawal of this rejection and allowance of this claim are earnestly solicited.

Rejections under 35 USC §103(a): Abe et al. and Nomani:

Claims 14-18 have been rejected under 35 USC §103(a) as being unpatentable over Abe et al. and further in view of U.S. Publication No. 2004/0170450 to Hamano et al. (hereinafter "Hamano"). Applicants respectfully request reconsideration and withdrawal of this rejection for at least the following reasons.

Claims 14-18 directly or indirectly depend from independent claim 1, and therefore include the features as presently recited in independent claim 1. The Examiner acknowledges that Abe et al. does not teach a transfer roller device. See Office Action of 19 December 2006, pages 4-5, item 6. However, the Examiner relies on Hamano et al. to allegedly teach or suggest the features admittedly lacking in Abe et al. See Office Action of 19 December 2006, page 5, item 8. Applicants respectfully submit that even if it is assumed that it were proper to combine Abe et al. with Hamano et al. to describe a transfer device having a transfer roller, as alleged by the Examiner, Abe et al. and Hamano et al., either separately or in combination, fail to teach or suggest, among other things, "a main frame to define an internal space of the electrophotographic printer," "a photosensitive drum unit vertically detachably installed at a drum operating position in the internal space of the main frame," "an intermediate transfer unit vertically detachably installed at a transfer unit operating position in the internal space of the main frame," and "wherein...the photosensitive drum unit and the intermediate transfer unit operate in the drum operating position and the transfer unit operating position, respectively," as presently recited in independent claim 1 of Applicants' invention. Accordingly, claims 14-18 are patentable over the references relied upon by the Examiner, and withdrawal of the rejection and allowance of these claims are earnestly solicited.

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New Claims:

New claim 40 has been added. Support from new claim 40 can be found in the specification and drawings, for example, in FIG. 1 and in paragraphs [0048-0050]. New independent claim 40 recites features, which are not disclosed, taught, or suggested in the prior art of record, for example, "wherein an electrostatic latent image formed on the photosensitive drum is developed by at least two developing rollers and transferred to the intermediate transfer unit from the photosensitive drum."

Accordingly, it is respectfully submitted that new claim 40 does not present new matter, and is allowable over the prior art of record, and allowance of this claim is earnestly solicited.

Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

If any fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 502827.

Respectfully submitted,

STANZIONE & KIM, LLP

By: 

Manuel A. Cordovez
Registration No. 58,480

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919 18th St., NW, Suite 440
Washington, DC 20006
Telephone: (202) 775-1900
Facsimile: (202) 775-1901